NOTE IV.

THE SPECIES OF THE ANTELOPE-GENUS PEDIOTRAGUS

BY

Dr. F. A. JENTINK.

February 1900.

A skin of a male antelope, collected by Mr. A. Sharpe in Southern Angoniland has been described by Mr. Oldfield Thomas under a new specific title, *Rhaphiceros Sharpei* (P. Z. S. L. 1896, p. 796, plate XXXIX); the author had no cranial evidence of its age, as the skull of the individual was wanting. Mr. Oldfield Thomas remarked that it is »a *Rhaphiceros* with the white markings of the *Grysbok* (*melanotis*), but with the feet of the *Steinbok* (*campestris*)", i. e. no accessory hoofs.

Now the description and the figure of this animal, its small size, its short horns, its relatively short ears make the impression as if it is a young *Grysbok*; the absence however of the accessory hoofs is the difficulty: but if we suppose that those very small — especially in a young specimen — accessory hoofs have been lost during the preparation of the flat skin by the collector, then I see no reason to give it a new name, then it is a young *Grysbok* (*melanotis*).

More material from Nyassaland-skins with skulls can, in future, settle the question whether Mr. Oldfield Thomas was right or if perhaps my hypothesis is correct: in the first case *Sharpei* is an interesting connecting link between the *Grysbok* and the *Steen-* (not *Stein-*) *bok* and there would

not be any reason to separate generically the *Grysbok* from the *Steenbok* and its allies. If however it later on appears that the specimen had lost its supplementary hoofs, then I strongly incline to bring the *Grysbok* (*melanotis*) into another genus, as more authors have done before, viz. *Calotragus*.

After having separated the *Grysbok* from the *Steenbok* in another genus there remain several species agreeing with the latter by having no accessory hoofs and which would belong with it to the genus *Rhaphicerus*, understood in the sense given to it by Dr. Sclater and Mr. Oldfield Thomas in their splendid work on the Antelopes. Now under this Raphicerine-group Hamilton Smith (Supplement to the Order Ruminantia, 1827, p. 252) headed only two East-Indian species, viz. *Antilope acuticornis* and *subulata*, both species based solely upon incomplete skulls; their specific validity therefore at present being accepted by no other scientific man. The generic title *Rhaphicerus* thus cannot be accepted, having moreover nothing at all to do with the *Grysbok* or *Steenbok*. The generic title *Calotragus* being preoccupied by the *Grysbok*, we accept for the *Steenbok* and its allies Fitzinger's *Pediotragus* as generic name (Die Gattungen der Familie der Antilopen nach ihren natürlichen Verwantschaft, 1869). The following paper intends to review the species of the latter genus.

Dr. Sclater and Mr. Oldfield Thomas in the Book of Antelopes, p. 41, accept as specific title of the *Steenbok*, the name *campestris* given by Thunberg. We find a description of his collections in »Mémoires de l'Académie impériale des sciences de St. Pétersbourg", 1811, pp. 298—323; it runs as follows (p. 313): 36 »*Antilope Campestris*, *Steen-*»*Bock*, cum prioribus vulgaris inhabitat campos inter urbem »et catenam montium, sabulosos, fructiculosos. Parva est, »supra rufa, subtus paulo pallidior. Cornua hujus subulata »sunt, recta, basi digitum crassa absque annulis, suberecta, »fusca, palmaria. Linea frontalis fusca. Femina inermis. Haec »quoque species hortis europaeorum noxia. Verosimiliter

»cum Antilope Grimmia conjugi non potest"..... Meanwhile Thunberg presented a large series of the species collected and described by him to the Upsala-Museum, the *campestris* was not among them (vide p. 322); the other skins he sent to Holland (vide p. 323), but I cannot say where these skins have been preserved: we may accept that the type of *campestris* Thunberg is lost. As therefore there is no type to compare with and as the description is applicable to several other species of Antelopes, I think it safer to take no further notice of Thunberg's *campestris*.

In 1814 Professor Lichtenstein published »die Gattung Antilope" after Forster's manuscript in the »königl. Bibliothek" (der Gesellschaft Naturforschender Freunde zu Berlin, Magazin, sechster Jahrgang, p. 147) and under the specific name *tragulus* he described an Antelope »cornibus rectis arrectis, teritibus, laevissimis, subulatis subreduncis; pilis brevibus appressis": this species with three varieties: *Antilope tragulus melanotis* (*Grysbok*), *A. t. rupestris* (*Steenbok*) and *A. t. pallida* (*Bleekbok*). The short diagnoses are rather unsatisfying but from Lichtenstein's figures and description (Darstellung neuer oder wenig bekannter Säugethiere, 1827—1834, pl. XIV) we know exactly what his meaning was: *Antilope tragulus* Forster has »*die Ohren* »*grösser als an irgend einer andern Art von Wiederkäuern,* »*und halten die ganze Länge des Kopfes*" and further on: »das Gehörn ist pfriemenförmig, fast ganz gerade, nur »schwach nach vorn gebogen (auf der Abbildung zu stark), »fast senkrecht über den Augen eingefügt, aufrecht stehend »um $\frac{1}{3}$ kürzer als der Kopf, auf der Vorderseite ganz glatt, »ohne alle Spur eines Ringes, nach hinten dagegen mit »einigen Queer-runzeln, *die von* 5 *bis* 6 *tieferen Längs-* »*furchen durchschnitten sind.* Doch verlieren sich diese Un- »ebenheiten schon im ersten Drittheil allmählig in die »glatte Oberfläche der Hornmasse".

Herewith we have gained two characteristics of very great importance. Major C. Hamilton Smith in his Supplement

to the order Ruminantia (p. 248), said under the heading *A. rupestris* »that Prof. Lichtenstein appears not to have »known the adult of either of the Steenbocks and parti- »cularly the present, which is larger and more robust in »structure than his *Tragulus*", he however adds a new important characteristic, namely that *the hoofs are rather high, short, and black.*

In the collection of the Leyden Museum is a specimen agreeing with Lichtenstein's (Forster's), Hamilton Smith's and Smuts' *Steenbok*, that is therefore a specimen of the true *tragulus*. Other specimens in our collection have the ears much shorter than the head, the horns slightly curved forwards and the hoofs more slender and less high. These specimens agree with the description and figure given by Sclater and Thomas in the mentioned »Book of Antelopes", part V, pp. 41—46, plate XXVII, fig. 1, s. n. *Raphiceros* (*Raphicerus* in the text) *campestris* (Thunberg). Now as I pointed out above it is quite impossible to make out what species was meant by Thunberg with his *campestris*, so that we are obliged to rebaptize this species. I propose the name *Horstockii.*

According to Dr. Sclater and Mr. Thomas (l. c. p. 36, note), *Antilope rufescens* H. Sm. belongs to the number of pale-colored specimens »quite impossible and of little importance to determine". There is however among our specimens a female individual so exactly agreeing with the description of *rufescens* by Hamilton Smith (p. 249, plate) as if he had our specimen before him at the moment he wrote down this description: this is the so-called *Vlakte Steenbok* and, as will later on appear, a very good and distinct species.

Blainville's *acuticornis* has been called so after an incomplete skull in the collection of the Royal College of Surgeons, London; the figure and description strongly remind the horns of *tragulus*. It is however very likely that it is merely a mutilated skull of *Tetraceros quadricornis* (see Flower's Catalogue of the specimens illustrating the osteo-

logy and dentition of Vertebrated Animals, Royal College of Surgeons, 1884, part II, p. 275). In dubiis abstine.

Antilope pallida certainly does not belong to *Pediotragus*: this Antelope has *long pasterns* (cf. H. Smith, l. c. p. 251).

It is not very clear what Matschie says in describing his *Pediotragus Neumanni* concerning the length of the ears (cf. Sitzungsb. der Gesellsch. naturf. Freunde, Berlin, 1894, p. 123), viz.: »diese kleine Antilope unterscheidet sich von *P. tragulus* Licht. durch kürzere Ohren (ca. 11 cm. lang)". Now we learn from Sclater's book of Antelopes, that the ears of his *campestris*, resp. *tragulus*, measure 4,2 inches, that is about 10.50 cm., a length agreeing exactly with what I find in the specimens of our collection, my *P. Horstockii*. Now if *Neumanni* has shorter ears than the latter species then they cannot measure ca. 11 cm. — It therefore seems that we have to read »längere" instead of »kürzere Ohren". Two other caracteristics mentioned by Matschie are: »Fehlen der dunklen Hufeisenzeichnung »auf dem Scheitel und der schwarzen Nasenzeichnung, sowie »abweichende Körperfärbung". It seems that the horseshoe-shaped marking as well as the dark colored nose-ornament are by no means constant — both are too absent or nearly so in our specimen of the true *tragulus*; and the color described by Matschie represents very well that in Sclater's *campestris*, my *Horstockii*; so that if it later on appears that the characteristics exhibited by its author are constant, then *Neumanni* at all events will be a species very nearly related to Sclater's *campestris*, my *Horstockii*.

Before proceeding to describe our species of the genus *Pediotragus* I remark that all species have the upper surface of the skull more or less roughened about as we know it of the skull of *Cephalophus Maxwelli* and of that of Crocodiles, so ploughed it is with ridges, lines and holes, as a rule in the males much more than in the females. This and other cranial characteristics as a rule go pari

passu with the external ones, as will be understood from my descriptions and measurements of these bony parts.

Pediotragus tragulus (Forster).

The rarity in collections may be the reason why it nearly always has been confounded with the following species.

Ears very large, much larger than the horns, in size equalling about the distance between their base and the end of the muzzle. Horns without every trace of basal rings, longitudinally furrowed and ribbed; they are practically vertical.

Hoofs short and high, especially those of the fore legs.

Color of the head of a brighter rufous than of the rest of the body. The horseshoe-shaped marking on the crown of the head and the triangle on the nose very inconspicuous, especially the latter. Under parts of body white; of the same color is a rather small stripe on the inside of the upperhalf of the fore legs and a ditto inside the thighs. Buttocks white, but not so round the anus. Above the eye a halfmoon-shaped white stripe. Lower jaw and a triangle on the chin white.

The here described adult male has been collected in the Cape Colony by Mr. de Lalande. Length of the ears about 16 cm. (6.4 inches), of the horns 11.5 cm. (4.6 inches); hoofs of fore legs: length above 2.5 cm. (1 inch), crown 2 cm. (0.9 inches). The skull is not in the stuffed skin: we possess however another skull of an adult male and of which the longitudinally ribbed horns prove clearly that it belonged once to a specimen of our species. I give here some figures of its measurements. The premaxillaria are wanting.

Upper surface very roughened. Coronoid process of mandible shorter than in the following species:

	mm.
Length nasalia	38
» lower jaw	98
» upper molar series	47
» lower » »	51
» diastema	20

Pediotragus Horstockii, nomen novum.

Ears much shorter than in the foregoing species, slightly longer than the horns. Horns without longitudinal furrows or ribbs but with very inconspicuous basal rings and slightly curved forwards.

Hoofs elongated and slender, especially those of the forelegs.

I should say that the color on the whole and its distribution is about that of *Pediotragus tragulus*; the horse-shoe-shaped marking on the crown of the head, however, as well as the triangle on the nose are much darker colored and therefore more pronounced: the white on the chin occupies an elongated space not unlike a very long ellipsis.

Length of ears about 11 cm., ditto of horns 10.2 cm.; hoofs of fore legs: length above 2.9—3.5 cm., crown 1.7 cm.

In the collection I recognize as belonging to this species two adult males, one adult female (called *rupestris* by Temminck, as I see on the stand) and a young ditto. The females and one of the males are from v. Horstock's collections (1823 and 1831), the second has been bought at the sale of the old collection Van Lidth de Jeude in 1866: besides I prepared the skulls of Lidth de Jeude's old male and Horstock's young female out of the skins: four other skulls of adult specimens from Horstock's collections, two males and two females (one of the males with broken off horn-cores) seem to belong to this species, although one of the female skulls not without a note of interrogation, as it is stronger built and stouter in all dimensions, but has the nasalia so very short. Upper surface of skull of males still rougher than in *tragulus*, of female nearly smooth.

	mm.
Length nasalia	37
» lower jaw	107
» upper molar series	47
» lower » »	50
» diastema	24

Pediotragus rufescens (H. Smith).

Major Charles Hamilton Smith tells us that he found a male specimen in Mr. Burchell's magnificent donation to the British Museum. As the species is not to determine according the view of the authors of the Book of Antelopes we may conclude that the above mentioned individual has disappeared. As far as I am aware there is no specimen in another Museum: it seems that the female specimen in the Leyden Museum is the unique preserved specimen of this beautiful species.

From its label it appears that the Museum procured the specimen in 1848 from the dealer, late Mr. Frank in Amsterdam; it once belonged to Dr. Sundevall's collections and its habitat seems to be Natal.

It is a very fresh looking specimen, an adult female of *P. rufescens*, one of the most exactly characterized species of the genus *Pediotragus*.

Its hue is of a splendid milk-chocolate-color, the upper surface of the head however is of a bright red. The result of these tinges is that the white colored as well as the dark parts are much more pronounced and very striking: so the triangle on the nose and the horseshoe-marking on the crown with a very distinctly drawn line down the nape of the neck make a much darker and much more clearly circumscribed impression than in the other allied species: the pure white hairs of the underparts too cover a greater extended area. White are the following parts: breast, belly, halfway the internal surface of the forelegs, internal surface of the hind-legs ending in a very small line at the tarsus, the buttocks entirely; further a broad bow above the eyes ending anteriorly in a very large ditto colored spot just above the opening of the lacrymal gland, finally are white the upper and lower lips all round the mouth and the chin ending in a very elongated triangle on the throat.

The ears are of about the same length as in *Horstockii*

and like in the other species the margins, with exception of the top of the ears, are dark brown colored. Length about 11 cm.

The anterior hoofs are of the short-type, more like *tragulus*-hoofs. length 2.3 cm., crown 2 cm.

Besides the skull of the above described adult specimen, we have another female-skull from v. Horstock's collections, which I bring without any hesitation under this heading: it is a somewhat younger skull as the upper premolars and the third lower premolar are just making their appearance.

The skull of the above described specimen has the nasal bones much more elongated than in any other *Pediotragus*-species, they measure no less than 52 mm., and in the younger skull 49 mm. Both skulls have the upper surface feebly roughened and the coronoid process of mandible is very developed.

Some measurements of the skull of the above described female specimen:

	mm.
Length nasalia	52
» lower jaw	113
» upper molar series	47
» lower » »	50
» diastema	30

H. Smith says that the horns are 3.5 inches that is 8.8 cm. long. I never saw a male specimen, so that I cannot say anything concerning the latter measure, but it seems, taken all things together, that *P. rufescens* is a species intermediate between *Horstockii* and

Pediotragus Kelleni, nova species.

We procured from Mr. C. E. v. d. Kellen's collections the skull of a very adult male together with the skull of a nearly fullgrown (the hindmost upper molar is just appearing) female, both from Cahama, Kakulovar-river, a northern

branch of the Cunene-river, collected in 1891. These skulls differ entirely from the skulls of the above described *Pediotragus*-species. The horns in the male are much more bent back, slightly curved; they are stalked as f. i. in the *Ourebia scoparia*; towards their base feeble traces of rings; length of horns not more than 7.6 cm. Upper surface of skull feebly roughened, much more like in the female-skulls of the other species; female-skull still less roughened. It is evident that we have here an undescribed form, which I propose to call after the two brethren v. d. Kellen.

It is highly probable that the young female from Humbe, mentioned and described in P. Z. S. L. 1878, p. 742, by Monsieur Barboza du Bocage as *Nanotragus tragulus* (Forst.)?, is simply a specimen of my *Kelleni*, the more as this description agrees very well with what I find in a very young specimen (a male according to Mr. v. d. Kellen), sent in 1888 to our Museum by Mr. P. J. v. d. Kellen from Gambos, interior of Mossamedes; Du Bocage calls his specimen »une jeune femelle", I conclude from its length, viz. 0.75 m. (l'extrémité du museau à la base de la queue) that it is a nearly fullgrown specimen or about that: moreover it is not very likely that a young specimen should have ears as long as 11 cm.; so that, although adult specimens are still wanting, we may form us a fairly good idea of the species.

Some measurements of the adult (male) skull:

	mm.
Length nasalia	48
» lower jaw	116
» upper molar series	46
» lower » »	49
» diastema	28
» of horns	76
Circumference of horns at base	35
Distance of base of horns to skull, behind	7

Van der Kellen's young male-specimen measures about 46 cm. from the base of tail to the muzzle; no indication

of horns. The horseshoe-shaped brown marking on the crown of the head broadly developed, from above the eyes and dying away along the nape of the neck; brown on the nose as a rule in the form of an elongated triangle. Upperparts of a chocolate-milk brown, darker on the head, lighter colored along the sides of the body and the legs; lower lips and chin, half-moon above eyes, ending in a broad spot anteriorly, underparts of body, buttocks, anterior of hindlegs down to the hoofs and internal surface of fore legs to the genuflexion white. Posterior surface of ears grizzled; the ears are like in the other species margined with brown, not so towards the top-end. The small size of the hoofs make it uncertain to decide whether this species has the fore hoofs short or long.

The four or — if *Neumanni* is a good species — five presently known species of the genus *Pediotragus* have the geographical distribution in South Africa as follows: Westwards *P. Kelleni*, Southwards *P. tragulus* and *Horstockii*, Eastwards *P. rufescens* and *Neumanni*.